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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
CHANG, AUDREY Y	
ART UNIT	PAPER NUMBER
2872	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/656,843	SATO ET AL.	
	Examiner	Art Unit	
	Audrey Y. Chang	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 February 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,5-15,18,20-30,33 and 35-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1,3,5-15,18,20-30,33 and 35-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 6, 2007 has been entered.

2. This Office Action is also in response to applicant's amendment filed on December 14, 2006, which has been entered into the file.

3. By this amendment, the applicant has amended claims 1, 3, 5, 15, 18, 20, 30, 33, and 35 and has canceled claims 2, 4, 16-17, 19, 31-32, and 34.

4. Claims 1, 3, 5-15, 18, 20-30, 33, and 35-42 remain pending in this application.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. **Claims 1, 3, 5-15, 18, 20-30, 33, and 35-42 are rejected under 35 U.S.C. 112, first paragraph,** as based on a disclosure which is not enabling. The half-wave plate provided over one of the said first and second polarization plate position of said polarization means **must be** corresponding to the half-wave plate of the polarization direction converting means **and** the polarization state of the polarized light from the image display portion **must be orthogonal or 90^0** with respect to the polarization state of the polarization plate are **critical** or **essential** to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). A

half-wave plate has the function of rotating the polarization state of polarized light by 90^0. If the two half-wave plates in the polarization direction converting means and over the first or second polarization plate are not corresponding to each other by aligning in the same light path or for the image light of the same image segment, then both image lights from both segments will be rotated to have the same polarization state and either stereoscopic vision will not result or no image will be viewed at all. Also if the polarization state of the polarized image light from the image display portion is not orthogonal to the polarization state of the polarization plate then either stereoscopic image will not result or no image will be viewed.

7. **Claims 5, 10-11, 20, 25-26 and 35, 40-41 are rejected under 35 U.S.C. 112, first paragraph,** as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification fails to teach that by having the first and second polarization plate portions being changeable in position will change the image display from three-dimensional to two-dimensional, in particular when their respective based claims explicitly state that the polarization state for the two polarization plates are the same. By exchanging the position of the first and second polarization plates will not cause the image information to change from 3D to 2D.

Claim Objections

8. Claims 1, 3, 5-15, 18, 20-30, 33, and 35-42 are objected to because of the following informalities:

(1). The phrase "polarized light according to a parallax separately in a first and second segment" recited in claims 1, 15 and 30 is confusing since it is not clear what does it means by "according to a parallax" and it is also not clear if the polarization states are the same or not for the first and second

segments. For the examination purpose, the polarization state has been treated as the same for both first and second segments. Clarifications however are required.

(2). The phrase "said arm" recited in claims 10, 25 and 40 is confusing since it lacks proper antecedent basis from their respective based claims 5, 20 and 35.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1, 5-6, 15, 20-21, 30, and 35-36 are rejected under 35 U.S.C. 102(b) as being anticipated by International Application Publication under PCT of Rosencwaig (WO95/00872).

Rosencwaig teaches a *stereoscopic vision system* serves as the *three-dimensional image display device* that is comprised of *an image display portions* (130, Figures 4 and 5) and a *polarizer* (132) for displaying *polarized* image information according to *parallax* wherein the image display portion comprises a *first segment* (126) and a *second segment* (128) for displaying left eye perspective and right eye perspective image information respectively. The stereoscopic vision system further comprises a *birefringent retarder* (134 or 154) comprises a *wave plate filter that includes a half-wave plate,* (please see page 7, lines 11-13),which serves as the *polarization direction converting means* opposed to the first and the second segments for converting the polarization state of the first and second image segments to make them have *orthogonal* polarization state with respect to each other. Rosencwaig further teaches that the stereoscopic vision system comprises a *pair of glasses* (140 and 146, Figure 4), serves as the

polarization means, which includes a *first and second polarization portions* (144 and 148) that each is a *linear polarizer* having polarization orientation that is at 90 degrees with respect to the polarization orientation of the linear polarizer (132, please see page 7, second paragraph). This means the polarization orientation of the two polarizers (144 and 148) **are the same**.

With regard to amended claims 1, 15, and 30, Rosencwaig further teaches that the polarization direction converting means or the birefringent retarder (134, Figure 4, page 7, lines 11-13) is a *half wave plate* and an additional *half wave plate* (142) is placed at front surface of one of the polarization plate of the polarization means or the glasses, (please see Figure 4, which is in front of polarizer 144 of the left eye glasses 140) such that the right eye perspective image light from the segments (128) is blocked by the left eye glasses and is received by the right eye of the viewer through the right eye glasses (146) and the left eye perspective image light from segments (126) is blocked by the right eye glasses but is received by the left eye glasses to achieve stereoscopic vision, (please see pages 7-9). The glasses (140 and 146) which serves as the *polarization means* is positioned over the viewer's eyes, (please see Figure 4). Rosencwaig et al teaches explicitly that the glasses is held by the viewer for maintaining the relative position relationship between the polarization means or glasses and the polarization direction converting means in order to properly view the stereoscopic image, (please see page 9, lines 10-14), this means the viewer serves as the ***position holder mechanism.***

With regard to claims 15 and 30 concerning the feature of the positional relation between the polarization means and the polarization direction converting means being adjustable, since the eyeglasses of Rosencwaig is worn or held by an observer, the movement of the observer will make the positional relationship between the polarization directing converting means and polarization means adjustable.

With regard to claims 5, 20 and 35, it is implicitly true by rotating the polarization means the specific polarization state matching and rejecting condition for allowing stereoscopic view will be destroyed and two dimensional image views will be achieved.

With regard to claims 6, 21 and 36, it is implicitly true that the distance, parallelism and alignment between the polarization means (i.e. glasses) and the polarization direction converting means are held by the position holding mechanism such as the viewer holding the glasses.

This reference has therefore anticipated the claims.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 3, 13, 14, 18, 28, 29, 33 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over International Application Published under PCT by Rosencwaig (WO95/00872).

The stereoscopic vision system taught by Rosencwaig as described for claims 1, 15, and 30 have met all the limitations of the claims.

With regard to claims 3, 18 and 33, Rosencwaig teaches that the polarization direction converting means comprises alternatively arranged *positive quarter wave plate* and *negative wave plates* (154 and 156, Figure 5) opposed to the image segments of the image display portions for creating right-hand and left-hand circularly polarized left and right eye perspective image light, (please see page 9 line 28 to page 10 line 4). Rosencwaig teaches that the pair of glasses (150 and 156, Figure 5) serves as the polarization means each has a linear polarizer (154 and 160) and a quarter wave plate (152 and 158) such that it coverts the right-hand and left-hand circularly polarized light back to linear polarized light and the left eye perspective image light from the segments (126) will be blocked by the right eye glasses and received by the left eye glasses and the right eye perspective image light from segments (128) will be blocked by the left eye glasses and received by the right eye glasses to achieve stereoscopic vision, (please see page 9

line 28 to page 11 line 14). This reference however does not teach explicitly that the alternative arranged positive and negative quarter wave plate is achieved by using a half wave plate (placing only at one of the segments) and a quarter wave plate. However one skilled in the art would immediately recognized that the arranged (+¼) and (-¼) wave plates of (154 and 156) as in Figure 5, is equivalent to the arrangement of (-¼+ ½) and (-¼) wave plates. This means that the polarization direction converting means having (+¼) and (-¼) wave plates of (154 and 156) is functionally equivalent to have (½ -¼) and (-¼) wave plates, or *a quarter wave plate* and a *half wave plate placing at one of the segments and a single quarter wave plate placed at the other segment.* Similarly, the wave plate (- ¼) and (+ ¼) (158 and 152, for Figure 5) is equivalent to have (- ¼) and (½ - ¼) or a quarter wave plate at first polarization plate and a half-wave and a quarter wave plate at the other polarization plate. It would then have been obvious to one skilled in the art to modify the polarization direction converting means of Rosencwaig to alternatively comprise a quarter wave plate and a half wave plate placing at one of the segments for it achieve the same result and may satisfy different requirement of the application and design.

With regard to claims 13 and 28, the claims concerning the display portions being adjustable in angular position is not well defined for the reasons stated above. The specification and the claim also fail to disclose how does such be achieved. It can only be examined in the broadest interpretation. It is understood in the art that most display device such as computer monitor has internal mechanism for adjusting angular position of the image displayed thereon. Such feature can therefore be obviously included for the benefit of providing good image display quality by adjusting the orientation of the image displayed.

With regard to claims 14, 29 and 42, this reference does not teach explicitly that the polarization means is covered with transparent protective material. However it is rather obvious to one skilled in the art to use protective cover to protect it from environmental damage.

13. Claims 7, 9-10, 12, 22, 24-25, 27, 37 and 39-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over International Application Published under PCT by Rosencwaig (WO95/00872) in view of the patent issued to Petersen (PN. 5,076,665).

The stereoscopic vision system taught by Rosencwaig as described for claims 1,5, 15, 20 and 30, 35 have met all the limitations of the claims.

Rosencwaig teaches that the polarization means or the glasses are placed in front of eyes of the observer is held by the observer serving as the position holding mechanism for maintaining the relative position between the polarization means (or glasses) and the polarization direction converting means to enable the proper stereoscopic image viewing. Rosencwaig however does not teach explicitly to include an arm having a first end for supporting the polarization means and a second end fixed to the frame of the image display portion as alternative means for the position holding mechanism. **Petersen** in the same field of endeavor teaches a *position holder* for holding a *viewing arrangement* (10, Figure 1) to a display device such as computer monitor wherein the position holder having *supporting rods*, (11) serve as the *arms* with a first end and a second end for holding to a lens frame (10) on the first end and for holding on to the frame of the display device at the second end, (with regard to **claims 7, 22 and 37**) and the distance, the parallelism and alignment between the lenses and the display device are held by the supporting rods (11). **With regard to claims 10, 25 and 40,** Petersen teaches that there are position-adjusting means for changing the positions of the lens frame and therefore the viewing lenses in either the longitudinal direction (C in Figure 1), lateral direction (A in Figure 4) and vertical direction (A in Figure 1). In facet, with regard to **claims 12 and 27**, the supporting rods are extendable or contractible in the longitudinal direction, (please see Figure 1). **With regard to claims 9, 24 and 39**, Petersen teaches that *a clip type of adjusting means* is at the second end of the supporting rods for adjusting the position of the rods. It would then have been obvious to one skilled in the art to apply the teachings of **Petersen** to modify the stereoscopic vision system of **Rosencwaig** to use the supporting rods as a alternative means

for the position holding means for holding the viewing arrangement including the polarization means in the fixed and supporting position with respect to the image display device having the polarization direction converting means for the benefit of allowing the positional relationship and the alignment of the polarization means and the polarization direction converting means be properly maintained to avoid possible errors occurs as the result of miss alignment.

14. Claims 8, 23, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over International Application Published under PCT by Rosencwaig (WO95/00872) and the patent issued to Petersen as applied to claims 7, 22 and 36 above, and further in view of the patent issued to Sebastian (Des. 383,121).

The stereoscopic vision system taught by Rosencwaig in combination with the teachings of Petersen as described for claims 7, 22 and 36 above have met all the limitations of the claims. These references however do not teach explicitly that a clip type position adjusting means is used to adjust the position of the polarization means. **Sebastian** in the same field of endeavor teaches a clip type adjusting means, (please see Figures 1-2) at the end of a supporting arm for adjusting the position of an enhancing screen placed in front of a display. It would then have been obvious to one skilled in the art to apply the teachings of **Sebastian** to use a clip type adjusting means as alternative means for holding the polarization means for the benefit of allowing an easy adjustment and easy attachment of the polarization means.

15. Claims 11, 26 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over International Application Published under PCT by Rosencwaig (WO95/00872) and the patent issued to Petersen as applied to claims 1, 10, 15, 25 and 30, 40 above, and further in view of the patent issued to Goff et al (PN. 6,417,894).

The stereoscopic vision system taught by Rosencwaig in combination with the teachings of Petersen as described for claims 1, 10, 15, 25, 30 and 40 above have met all the limitations of the claims. These references however do not teach explicitly that polarization means is rotatable relative to the polarization converting means in at least one of the longitudinal, lateral and vertical direction. Goff et al in the same field of endeavor teaches an adjustable magnifying apparatus for viewing image on a display device wherein a position holding mechanism for holding the viewing means (14, Figure 2) comprises an arm wherein the viewing means can be rotated with respect to the image display device in vertical, longitudinal and lateral direction. It would then have been obvious to apply the teachings of Goff et al to modify the position holding mechanism to make the polarization means or the glasses that is capable of rotating with respect to the image display device where the polarization direction converting means positioned for the benefit of allowing the viewing position be adjusted more accurately.

Response to Arguments

16. Applicant's arguments filed on December 14, 2006 have been fully considered but they are not persuasive. The newly amended claims have been fully considered and they are rejected for the reasons stated above. Applicant's arguments have also be fully addressed in the reasons for rejection set forth above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 571-272-2309. The examiner can normally be reached on Monday-Friday (8:00-4:30), alternative Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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